



Massachusetts Department of Environmental Protection
Source Water Assessment and Protection (SWAP) Report
for
Chatham Water Department

What is SWAP?

The Source Water Assessment and Protection (SWAP) program, established under the federal Safe Drinking Water Act, requires every state to:

- inventory land uses within the recharge areas of all public water supply sources;
- assess the susceptibility of drinking water sources to contamination from these land uses; and
- publicize the results to provide support for improved protection.

Susceptibility and Water Quality

Susceptibility is a measure of a water supply's potential to become contaminated due to land uses and activities within its recharge area.

A source's susceptibility to contamination does *not* imply poor water quality.

Water suppliers protect drinking water by monitoring for more than 100 chemicals, disinfecting, filtering, or treating water supplies, and using source protection measures to ensure that safe water is delivered to the tap.

Actual water quality is best reflected by the results of regular water tests. To learn more about your water quality, refer to your water supplier's annual Consumer Confidence Reports.

Table 1: Public Water System Information

<i>PWS Name</i>	Chatham Water Department
<i>PWS Address</i>	127 Old Harbor Road
<i>City/Town</i>	Chatham, Massachusetts
<i>PWS ID Number</i>	4055000
<i>Local Contact</i>	Lynn Van Sant/William G. Redfield
<i>Phone Number</i>	(508) 945-5150

Introduction

We are all concerned about the quality of the water we drink. Drinking water wells may be threatened by many potential contaminant sources, including storm runoff, road salting, and improper disposal of hazardous materials. Citizens and local officials can work together to better protect these drinking water sources.

Purpose of this report:

This report is a planning tool to support local and state efforts to improve water supply protection. By identifying land uses within water supply protection areas that may be potential sources of contamination, the assessment helps focus protection efforts on appropriate Best Management Practices (BMPs) and drinking water source protection measures.

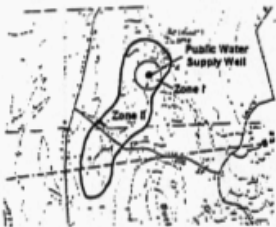
Refer to Table 3 for Recommendations to address potential sources of contamination. Department of Environmental Protection (DEP) staff are available to provide information about funding and other resources that may be available to your community.

This report includes the following sections:

1. Description of the Water System
2. Land Uses within Protection Areas
3. Source Water Protection Conclusions and Recommendations
4. Appendices

What is a Protection Area?

A well's water supply protection area is the land around the well where protection activities should be focused. Each well has a Zone I protective radius and a Zone II protection area.



Glossary

Aquifer: An underground water-bearing layer of permeable material that will yield water in a usable quantity to a well.

Hydrogeologic Barrier: An underground layer of impermeable material (i.e. clay) that resists penetration by water.

Recharge Area: The surface area that contributes water to a well.

Zone I: The area closest to a well; a 100 to 400 foot radius proportional to the well's pumping rate. This area should be owned or controlled by the water supplier and limited to water supply activities.

Zone II: The primary recharge area for the aquifer. This area is defined by hydrogeologic studies that must be approved by DEP. Refer to the attached map to determine the land within your Zone II.

Section 1: Description of the Water System

Zone II #: 402

Susceptibility: High

Well Names	Source IDs
GP Well #1 South Chatham	4055000-01G
GP Well #2 South Chatham	4055000-02G
GP Well #3 South Chatham	4055000-03G
GP Well #4 Indian Hill Road	4055000-04G
GP Well #5 Training Field Rd.	4055000-05G
GP Well #6 Tirrell's Way	4055000-06G
GP Well #7 Eben's Way	4055000-07G
GP Well #8 Training Field Road	4055000-08G

The Chatham Water Department receives water from eight groundwater wells located within the boundaries of the Town of Chatham. A new well, Town Forest Well #9, is in the final stages of the DEP source approval process and has not been assessed as part of this report. All of the wells are situated in one Zone II (DEP #402) that is located in the towns of Chatham and Harwich. The wells draw from the Monomoy Lens, one of six groundwater lenses that make up the Cape Cod Sole Source Aquifer. Each well has a Zone I of 400 feet. The Chatham wells #1-3, and Training Field Road well #5 are located in an aquifer with a high vulnerability to contamination due to the absence of hydrogeologic barriers (i.e. a contiguous clay layer) that can prevent contaminant migration into the Zone II. Please refer to the attached map to view the boundaries of the Zone I and Zone II.

Potassium hydroxide is added to all the wells to raise the pH of the water to render it non-corrosive. Wells #3, #5 and #7 have polyphosphate added for sequestering of iron and manganese. Wells #2 and #3 have sodium hypochlorite addition for microbiological control. During spring flushing Wells #5 and #6 also receive sodium hypochlorite treatment. For current information on monitoring results and treatment, please contact the Public Water System contact person listed above in Table 1 for a copy of the most recent Consumer Confidence Report. Drinking water monitoring reporting data are also available on the web at <http://www.epa.gov/safewater/ccr1.html>.

Section 2: Land Uses in the Protection Areas

The Zone II for Chatham is primarily a mixture of forest and residential land uses with small areas of commercial, light industrial and waste disposal land uses (refer to attached map for details). Land uses and activities that are potential sources of contamination are listed in Table 2, with further detail provided in the Table of Regulated Facilities and Table of Underground Storage Tanks in Appendix A.

Key Land Uses and Protection Issues include:

1. Zone I Protection
2. Residential land uses
3. Transportation corridors
4. Hazardous materials storage and use
5. Agricultural activities
6. Comprehensive wellhead protection planning

The overall ranking of susceptibility to contamination for the system is high, based on the presence of at least one high threat land use within the water supply protection areas, as seen in Table 2.

1. Zone Is – The Zone I for each of the wells is a 400 foot radius around the wellhead. Massachusetts drinking water regulations (310 CMR 22.00 Drinking Water) requires public water suppliers to own the Zone I, or control the Zone I through a conservation restriction. The seven Zone Is for the wells are owned or controlled by the public water system. Only water supply activities are allowed in the Zone I. However, many public water supplies were developed prior to the Department's regulations and contain non water supply activities such as homes and public roads. The following non water supply activities occur in the Zone Is of the system wells:

Zone I: GP Well #6 Tirrell's Way (4055000-06G) – An electric transmission line runs along the southeastern edge of the Zone I.

Zone I Recommendations:

- ✓ Use BMPs for the storage, use, and disposal of hazardous materials such as water supply chemicals and maintenance chemicals.
- ✓ Do not use or store pesticides, fertilizers or road salt within the Zone I.
- ✓ Keep any new non water supply activities out of the Zone I.

2. Residential Land Uses – Approximately 38% of the Zone II consists of residential areas. None of the areas have public sewers, and so all use septic systems. There are an estimated 2250 private homes in the Zone II, about 1250 in Chatham and 1000 in Harwich. If managed improperly, activities associated with residential areas can contribute to drinking water contamination. Common potential sources of contamination include:

- **Septic Systems** – Improper disposal of household hazardous chemicals to septic systems is a potential source of contamination to the groundwater because septic systems lead to the ground. If septic systems fail or are not properly maintained they can be a potential source of microbial contamination.
- **Household Hazardous Materials** - Hazardous materials may include automotive wastes, paints, solvents, pesticides, fertilizers, and other substances. Improper use, storage, and disposal of chemical products

used in homes are potential sources of contamination.

- **Heating Oil Storage** - If managed improperly, Underground and Aboveground Storage Tanks (UST and AST) can be potential sources of contamination due to leaks or spills of the fuel oil they store.
- **Stormwater** – Catch basins transport stormwater from roadways and adjacent properties to the ground. As flowing stormwater travels, it picks up debris and contaminants from streets and lawns. Common potential contaminants include lawn chemicals, pet waste, and contaminants from automotive leaks, maintenance, washing, or accidents.

Residential Land Use Recommendations:

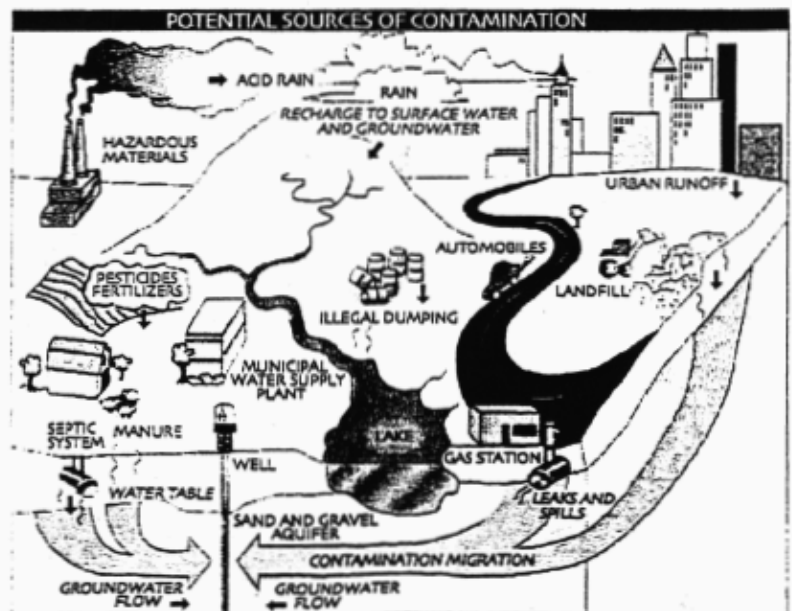
- ✓ Educate residents on best management practices (BMPs) for protecting water

Benefits of Source Protection

Source Protection helps protect public health and is also good for fiscal fitness:

- Protects drinking water quality at the source
- Reduces monitoring costs through the DEP Waiver Program
- Treatment can be reduced or avoided entirely, saving treatment costs
- Prevents costly contamination clean-up
- Preventing contamination saves costs on water purchases, and expensive new source development

Contact your regional DEP office for more information on Source Protection and the Waiver Program.



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supplies. Distribute the fact sheet "Residents Protect Drinking Water" available in Appendix C and on www.mass.gov/dep/brp/dws/protect.htm, which provides BMPs for common residential issues.

- ✓ Work with planners to control new residential developments in the water supply protection areas.
- ✓ Promote BMPs for stormwater management and pollution controls. Visit DEP's web site for additional information and assistance at <http://www.state.ma.us/dep/brp/wm/nonpoint.htm>.

3. Transportation Corridors – State roads Rt. 28, Rt. 137 and Rt. 39 run through the Zone II. Local roads are common throughout the Zone II. Roadway construction, maintenance, and typical highway use can all be potential sources of contamination. Accidents can lead to spills of gasoline and other potentially dangerous transported chemicals. Roadways are frequent sites for illegal dumping of hazardous or other potentially harmful wastes. De-icing salt, automotive chemicals and other debris on roads are picked up by stormwater and wash in to catchbasins.

Transportation Corridor Recommendations:

- ✓ Wherever possible, ensure that drains discharge stormwater outside of the Zone I.
- ✓ Identify stormwater drains and the drainage system along transportation corridors. If maps aren't yet available, work with town officials to investigate mapping options such as the upcoming Phase II Stormwater Rule requiring some communities to complete stormwater mapping.
- ✓ Work with local emergency response teams to ensure that any spills within the Zone II can be effectively contained. Review storm drainage maps with emergency response teams.
- ✓ Work with the Town and State to best manage stormwater in the Zone II. Best management practices include street sweeping, vegetative swales, and regular catch basin inspection, cleaning and maintenance.

4. Hazardous Materials Storage and Use –

Three percent of the land area within the Zone II is commercial or industrial land uses. Activities associated with commercial and industrial land use are often the greatest concern when evaluating water supply protection. Many small businesses and industries use hazardous materials, produce hazardous waste products, and/or store large quantities of hazardous materials in UST/AST. If hazardous materials are improperly stored, used, or disposed, they become potential sources of contamination. Hazardous materials should never be disposed of to a septic system or floor drain leading directly to the ground.

Hazardous Materials Storage and Use Recommendations:

- ✓ Educate local businesses on best management practices for protecting water supplies. Distribute the fact sheet "Businesses Protect Drinking Water" available in Appendix C and on www.mass.gov/dep/brp/dws/protect.htm, which provides BMP's for common business issues.
- ✓ Work with local businesses to register those

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What are "BMPs?"

Best Management Practices (BMPs) are measures that are used to protect and improve surface water and groundwater quality. BMPs can be structural, such as oil & grease trap catch basins, nonstructural, such as hazardous waste collection days or managerial, such as employee training on proper disposal procedures.

For More Information

Contact Isabel Collins in DEP's Lakeville Office at (508) 946-2726 for more information and assistance on improving current protection measures.

Copies of this report have been provided to the public water supplier, board of health, and the town.

Source Protection Decreases Risk



Figure 2: Risk of contamination decreases as source protection increases. This is true for public water systems of any susceptibility ranking, whether High, Moderate, or Low.

Potential Source of Contamination vs. Actual Contamination

The activities listed in Table 2 are those that typically use, produce, or store contaminants of concern, which, if managed improperly, are potential sources of contamination (PSC).

It is important to understand that a release may never occur from the potential source of contamination provided facilities are using best management practices (BMPs). If BMPs are in place, the actual risk may be lower than the threat ranking identified in Table 2. Many potential sources of contamination are regulated at the federal, state and/or local levels, to further reduce the risk.

Table 2: Land Use in the Protection Areas (Zones I and II)

For more information, refer to Appendix A: Regulated Facilities within the Water Supply Protection Area

Activities	Quantity	Threat*	Potential Source of Contamination
Agricultural			
Fertilizer Storage or Use	3	M	Fertilizers: leaks, spills, improper handling, or over-application
Landscaping	12	M	Fertilizers and pesticides: leaks, spills, improper handling, or over-application
Manure Storage	1	H	Manure (microbial contaminants): improper handling
Nurseries	2	M	Fertilizers, pesticides, and other chemicals: leaks, spills, improper handling, or over-application
Pesticide Storage or Use	12	H	Pesticides: leaks, spills, improper handling, or over-application
Commercial			
Airports	1	H	Fuels, de-icers, salt, and other hazardous chemicals: spills, leaks, or improper handling
Body Shops	1	H	Vehicle paints, solvents, and primer products: improper management
Gas Stations	1	H	Automotive fluids and fuels: spills, leaks, or improper handling or storage
Boat Yards/Builders	2	H	Fuels, paints, and solvents: spills, leaks, or improper handling
Cemeteries	1	M	Over-application of pesticides: leaks, spills, improper handling; historic embalming fluids
Medical Facilities	1	M	Biological, chemical, and radioactive wastes: spills, leaks, or improper handling or storage
Paint Shops	1	H	Paints, solvents, other chemicals: spills, leaks, or improper handling or storage
Repair Shops (Engine, Appliances, Etc.)	2	H	Engine fluids, lubricants, and solvents: spills, leaks, or improper handling or storage
Rust Proofing	1	H	Rust proofing chemicals, solvents, and automotive paint residuals: spills, leaks, or improper handling or storage
Sand And Gravel Mining/Washing	1	M	Heavy equipment, fuel storage, clandestine dumping: spills or leaks
Industrial			
Food Processors	2	L	Cleaners, other chemicals, microbial contaminants: spills, leaks, or improper handling or storage

Table 2 Continued: Land Use in the Protection Areas (Zones I and II)

For more information, refer to Appendix A: Regulated Facilities within the Water Supply Protection Area

Activities	Quantity	Threat*	Potential Source of Contamination
Industrial Continued			
Foundries Or Metal Fabricators	2	H	Solvents and other chemicals: spills, leaks, or improper handling or storage
Industry/Industrial Parks	2	H	Industrial chemicals and metals: spills, leaks, or improper handling or storage
Machine/Metalworking Shops	2	H	Solvents and metal tailings: spills, leaks, or improper handling
Residential			
Fuel Oil Storage (at residences)	Numerous (≈1125)	M	Fuel oil: spills, leaks, or improper handling
Lawn Care / Gardening	numerous (≈2250)	M	Pesticides: over-application or improper storage and disposal
Septic Systems / Cesspools	numerous (≈2250)	M	Hazardous chemicals: microbial contaminants, and improper disposal
Miscellaneous			
Aboveground Storage Tanks	2	M	Materials stored in tanks: spills, leaks, or improper handling
Aquatic Wildlife	numerous	L	Microbial contaminants
Composting Facilities	1	L	Organic material, animal waste, and runoff
Fishing/Boating	3	L	Fuel and other chemical spills, microbial contaminants
Landfills and Dumps	1	H	Seepage of leachate
Large Quantity Hazardous Waste Generators	1	H	Hazardous materials and waste: spills, leaks, or improper handling or storage
Small quantity hazardous waste generators	1	M	Hazardous materials and waste: spills, leaks, or improper handling or storage
Very Small Quantity Hazardous Waste Generator	3	L	Hazardous materials and waste: spills, leaks, or improper handling or storage
Stormwater Drains/ Retention Basins	few	L	Debris, pet waste, and chemicals in stormwater from roads, parking lots, and lawns
Transmission Line Rights-of-Way	2	L	Corridor maintenance pesticides: over-application or improper handling; construction
Transportation Corridors	3	M	Fuels and other hazardous materials: accidental leaks or spills; pesticides: over-application or improper handling
Underground Storage Tanks	≈22	H	Stored materials: spills, leaks, or improper handling
Waste Transfer/Recycling Station	1	M	Water contacting waste materials: improper management, seepage, and runoff
Wastewater Treatment Plant/ Collection Facility/ Lagoon	1	M	Treatment chemicals or equipment maintenance materials: improper handling or storage; wastewater: improper management

* Notes for Table 2 can be found on page 10.

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facilities that are unregistered generators of hazardous waste or waste oil. Partnerships between businesses, water suppliers, and communities enhance successful public drinking water protection practices.

- ✓ Educate local businesses on Massachusetts floordrain requirements. See brochure "Industrial Floor Drains" for more information.

5. Agricultural Activities – There are several commercial landscaping and nurseries in the Zone II. Pesticides and fertilizers have the potential to contaminate a drinking water source if improperly stored, applied, or disposed. If not contained or applied properly, manure is a potential source of contamination to ground and surface water.

Agricultural Activities Recommendation:

- ✓ Work with users of pesticides and fertilizers in your protection areas to make them aware of your water supply and to encourage the use of best management practices to protect water supplies.
- ✓ Work with the Board of Health in Chatham to ensure that any manure storage and use within the Zone II employs BMPs to protect the water supply.

6. Protection Planning – Currently, Chatham has water supply protection controls that meet DEP's Wellhead Protection regulations 310 CMR 22.21(2). Protection planning protects drinking water by managing the land area that supplies water to a well. A Wellhead Protection Plan coordinates community efforts, identifies protection strategies, establishes a timeframe for implementation, and provides a forum for public participation.

Protection Planning Recommendations:

- ✓ Continue to use the Chatham Water and Sewer Advisory Committee as a protection team to implement the goals of the Wellhead Protection Plan.
- ✓ Ensure local wellhead protection controls are in compliance with current MA Wellhead Protection Regulations 310 CMR 22.21(2). For more information on DEP land use controls see <http://mass.gov/dep/brp/dws/protect.htm>.
- ✓ Continue reciprocating Zone II protection efforts with Harwich.
- ✓ Use information from this report and the 1984 Potential Source Contamination Survey by Whitman and Howard to develop your own

inventory of threats to the water supply. Accurate threat inventories provide essential information to decision-makers at the local and state level.

- ✓ Work with town boards to review and provide recommendations on proposed development within your water supply protection areas. To obtain information on build-out analyses for the town, see the Executive Office of Environmental Affairs' community preservation web site, <http://commpres.env.state.ma.us/>.

Other land uses and activities within the Zone II include auto repair shops, a gas station, industrial parks, landfills and underground storage tanks. Refer to Table 2 and Appendix A for more information about these land uses.

Identifying potential sources of contamination is an important initial step in protecting your drinking water sources. Further local investigation will provide more in-depth information and may identify new land uses and activities that are potential sources of contamination. Once potential sources of contamination are identified, specific recommendations like those below should be used to better protect your water supply.

Top 5 Reasons to Develop a Local Wellhead Protection Plan

- Reduces Risk to Human Health
- Cost Effective! Reduces or Eliminates Costs Associated With:
 - Increased groundwater monitoring and treatment
 - Water supply clean up and remediation
 - Replacing a water supply
 - Purchasing water
- Supports municipal bylaws, making them less likely to be challenged
- Ensures clean drinking water supplies for future generations
- Enhances real estate values - clean drinking water is a local amenity. A community known for its great drinking water is a place people want to live and businesses want to locate.

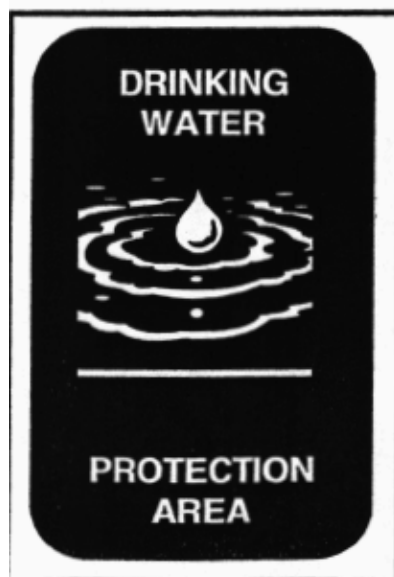


Table 3: Current Protection and Recommendations

Protection Measures	Status	Recommendations
Zone I		
Does the Public Water Supplier (PWS) own or control the entire Zone I?	YES	Follow Best Management Practices (BMP's) that focus on good housekeeping, spill prevention, and operational practices to reduce the use and release of hazardous materials.
Is the Zone I posted with "Public Drinking Water Supply" Signs?	YES	Additional economical signs are available from the Northeast Rural Water Association (802) 660-4988.
Is Zone I regularly inspected?	YES	Continue daily inspections of drinking water protection areas.
Are water supply-related activities the only activities within the Zone I?	YES	Continue monitoring activities in Zone Is.
Municipal Controls (Zoning Bylaws, Health Regulations, and General Bylaws)		
Does the municipality have Wellhead Protection Controls that meet 310 CMR 22.21(2)?	YES	Chatham meets DEP's requirements for wellhead protection. Refer to www.state.ma.us/dep/brp/dws/ for model bylaws and health regulations, and current regulations.
Do neighboring communities protect the Zone II areas extending into their communities?	YES	Continue to work with Harwich on reciprocal protection of the others Zone IIs.
Planning		
Does the PWS have a Wellhead Protection Plan?	YES	Continue to implement recommendations contained in Wellhead Protection Plan, use Water and Sewer Advisory Committee to achieve goals.
Does the PWS have a formal "Emergency Response Plan" to deal with spills or other emergencies?	YES	Augment plan by developing a joint emergency response plan with fire department, Board of Health, DPW, and local and state emergency officials. Coordinate emergency response drills with local teams.
Does the municipality have a wellhead protection committee?	YES	Water and Sewer Advisory Committee acts as source protection committee. Consider including representatives from citizens' groups, neighboring communities, and the business community in source protection issues.
Does the Board of Health conduct inspections of commercial and industrial activities?	YES	For more guidance see "Hazardous Materials Management: A Community's Guide" at www.state.ma.us/dep/brp/dws/files/hazmat.doc
Does the PWS provide wellhead protection education?	YES	Aim additional efforts at commercial, industrial and municipal uses within the Zone II.

Section 3: Source Water Protection Conclusions and Recommendations

Current Land Uses and Source Protection:

As with many water supply protection areas, Chatham's Zone II contains potential sources of contamination. However, source protection measures reduce the risk of actual contamination, as illustrated in Figure 2. The water supplier is commended for taking an active role in promoting source protection measures in the Water Supply Protection Areas through:

- Owning and controlling the Zone Is.
- Passing wellhead protection controls that meet 310 CMR 22.21(2).
- Developing a wellhead protection plan.
- Educating consumers and school children on source protection.
- Negotiating reciprocating protection of Zone IIs by Chatham and Harwich.
- Educating realtors on Zone II protection issues.
- In 1994, contracting Whitman and Howard to perform an inventory of potential sources of contamination in Chatham's Zone II.

Source Protection Recommendations:

To better protect the sources for the future:

- ✓ Continue regular Zone I inspections.
- ✓ Continue to educate residents on ways they can help you to protect drinking water sources.
- ✓ Work with emergency response teams to ensure that they are aware of the stormwater drainage in your Zone II and to cooperate on responding to spills or accidents.
- ✓ Partner with local businesses to ensure the proper storage, handling, and disposal of hazardous materials.
- ✓ Initiate a process to update the potential sources of contamination identified in this report and the 1994 Whitman and Howard report.

Conclusions:

These recommendations are only part of your ongoing local drinking water source protection. Additional source protection recommendations are listed in Table 3, the Key Issues above and Appendix C.

DEP staff, informational documents, and resources are available to help you build on this SWAP report as you continue to improve drinking water protection in your community. Grants and loans are available through the Drinking Water State Revolving Loan Fund, the Clean Water State Revolving Fund, and other sources. For more information on grants and loans, visit the Bureau of Resource Protection's Municipal Services web site at: <http://mass.gov/dep/brp/mf/mfpubs.htm>.

The assessment and protection recommendations in this SWAP report are provided as a tool to encourage community discussion, support ongoing source protection efforts, and help set local drinking water protection priorities. Citizens and community officials should use this SWAP report to spur discussion of local drinking water protection measures. The water supplier should supplement this SWAP report with local information on potential sources of contamination and land uses. Local information should be maintained and updated periodically to reflect land use changes in the Zone II. Use this information to set priorities, target inspections, focus education efforts, and to develop a long-term drinking water source protection plan.

What is a Zone III?

A Zone III (the secondary recharge area) is the land beyond the Zone II from which surface and ground water drain to the Zone II and is often coincident with a watershed boundary.

The Zone III is defined as a secondary recharge area for one or both of the following reasons:

1. The low permeability of underground water bearing materials in this area significantly reduces the rate of groundwater and potential contaminant flow into the Zone II.
2. The groundwater in this area discharges to a surface water feature such as a river, rather than discharging directly into the aquifer.

The land uses within the Zone III are assessed only for sources that are shown to be groundwater under the direct influence of surface water.

Additional Documents:

To help with source protection efforts, more information is available by request or online at mass.gov/dep/brp/dws including:

1. Water Supply Protection Guidance Materials such as model regulations, Best Management Practice information, and general water supply protection information.
2. MA DEP SWAP Strategy
3. Land Use Pollution Potential Matrix
4. Draft Land/Associated Contaminants Matrix

Section 4: Appendices

- A. Regulated Facilities within the Water Supply Protection Area
- B. Table of Tier Classified Oil and/or Hazardous Material Sites within the Water Supply Protection Areas
- C. Additional Documents on Source Protection

Notes for Table 2 :

1. When specific potential contaminants are not known, typical potential contaminants or activities for that type of land use are listed. Facilities within the watershed may not contain all of these potential contaminant sources, may contain other potential contaminant sources, or may use Best Management Practices to prevent contaminants from reaching drinking water supplies.
2. For more information on regulated facilities, refer to Appendix B: Regulated Facilities within the Water Supply Protection Area information about these potential sources of contamination.
3. For information about Oil or Hazardous Materials Sites in your protection areas, refer to Appendix C: Tier Classified Oil and/or Hazardous Material Sites.

* **THREAT RANKING** - The rankings (high, moderate or low) represent the relative threat of each land use compared to other PSCs. The ranking of a particular PSC is based on a number of factors, including: the type and quantity of chemicals typically used or generated by the PSC; the characteristics of the contaminants (such as toxicity, environmental fate and transport); and the behavior and mobility of the pollutants in soils and groundwater.